

**REMARKS**

Claims 1, 3-12 and 14-18 are pending in the present application. As shown in the foregoing amendments, independent claims 1 and 12 are amended. Applicant respectfully requests withdrawal of the rejection, and allowance of the claims.

**I. The claims are novel**

Claims 1, 3-12 and 14-18 stand rejected due to alleged anticipation under 35 U.S.C. § 102(b) over Cutler et al. (IEEE "Distributed Self-Diagnosis of VLSI Mesh Array Processors," hereafter "Cutler"). Applicant respectfully submits that Cutler fails to anticipate all of the claimed features, as required for a rejection under 35 U.S.C. § 102. For at least the reasons herein, Applicant respectfully requests withdrawal of the rejection, and allowance of the claims.

Claim 1 recites at least a second element that inputs diagnosis results from first elements, discriminates each of the diagnosis results into a majority group or a minority group, and determines the first element whose diagnosis result is in the minority group as a faulty first element. Claim 12 recites at least the steps of discriminating each of the diagnosis results into a majority group or a minority group, and determining one of the first elements whose diagnosis result is in the minority group as a faulty first element. At least one of the advantages of the presently claimed invention is that with the recited second element or discriminating and determining steps, the determination of the faulty first element is simpler, even though the number of the first elements increases.

Cutler discloses a directed-graph model and a comparison model (or an undirected-graph model) for system level diagnosis of processors or cells. As disclosed at page 178, column 2, lines 13-16 of Cutler, "Each processor or cell in a multiprocessor system tests its neighbors and

sends the collection of test results to a host computer.” However, Applicant respectfully submits that Cutler merely discloses that the comparison model (or the undirected-graph model) “assigns system’s tasks to pairs of cells, compares the results and uses the comparison results for diagnosis,” at page 178, column 2, lines 24-27 of Cutler.

Applicant respectfully submits that Cutler fails to disclose or suggest all of the claimed combinations of features. For example, but not by way of limitation, Applicant respectfully submits that Cutler does not disclose (or even suggest) a second element which discriminates each of the diagnosis results into a majority group or a minority group, and determines the first element whose diagnosis result is in the minority group as a faulty first element, as recited in independent claim 1. Also, Applicant respectfully submits that Cutler does not disclose discriminating each of diagnosis results into a majority group or a minority group, or determining the first element whose diagnosis result is in the minority group as a faulty first element, as recited in independent claim 12. Thus, Applicant respectfully requests withdrawal of the rejection of independent claims 1 and 12, and allowance thereof.

Claims 3-11 depend from independent claim 1, and claims 14-18 depend from independent claim 12. Applicant respectfully submits that the dependent claims are allowable for at least the same reasons as the independent claims from which they depend. Therefore, Applicant respectfully requests withdrawal of the rejection, and allowance of the claims.

## **II. Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

AMENDMENT UNDER 37 C.F.R. § 1.111  
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Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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**APPENDIX**  
**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS:**

**The claims are amended as follows:**

1. (Twice amended) A semiconductor chip comprising:  
a plurality of first elements each of which diagnoses itself; and  
a second element which inputs diagnosis results from said first elements, [and determines whether or not there is a faulty first element in said first elements based on majority logic of said diagnosis results]discriminates each of said diagnosis results into a majority group or a minority group, and determines said first element whose diagnosis result is in said minority group as a faulty first element.

12. (Twice amended) A method which is performed in a semiconductor chip including a plurality of first elements, comprising:  
diagnosing said first elements each by itself; [and  
determining whether or not there is a faulty first element in said first elements based on majority logic of diagnosis results from said first elements]  
discriminating each of diagnosis results into a majority group or a minority group; and  
determining one of said first elements whose diagnosis result is in said minority group as a faulty first element.